

**REMARKS**

By this Amendment, claims 13-21 are amended. No new matter is added by the amendments. Claims 13-21 are pending in the application. Claim 18 was withdrawn from consideration as being drawn to non-elected subject matter. Favorable consideration and allowance are respectfully requested in light of the following remarks.

**Rejection Under 35 U.S.C. § 112, ¶2**

Claims 14-17 and 19-21 were rejected under 35 U.S.C. § 112, ¶2.

Claims 14-16 and 18 are amended to depend from claim 12.

Claim 14 is amended to recite "wherein, in the event of the compressor wheel bursting, the means for axially locking the shaft produces a locking connection between the shaft and an auxiliary bearing firmly connected to the shaft, and the auxiliary bearing is secured in the axial direction by the thrust bearing of the shaft."

Support for this amendment can be found at page 9, lines 11-18, of the specification.

Claim 19 is amended to recite that "the means is connected to the shaft between the compressor wheel and the thrust bearing in such a way that the means interacts with the thrust bearing by contact between the means and an auxiliary bearing and contact between the auxiliary bearing and the thrust bearing in the event of the compressor wheel bursting." See, e.g., Figures 2A, 2B and 3.

Applicants respectfully submit that claims 14-17 and 19-21 are in compliance with the requirements of 35 U.S.C. § 112, ¶2. Therefore, withdrawal of this rejection is respectfully requested.

**Rejections Under 35 U.S.C. § 102**

A. Claims 13-17 and 21 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,969,805 to Romeo ("Romeo"). This rejection is respectfully traversed.

Claim 13, as amended, recites a turbocharger, comprising a turbine with a turbine wheel and a compressor with a compressor wheel, the turbine wheel and the compressor wheel being connected via a shaft, the shaft being rotatably and axially mounted by means of a radial bearing and a thrust bearing arranged between the turbine wheel and the compressor wheel, and the turbine wheel, the shaft and the compressor wheel being arranged in a housing and connected to one another in such a way that, in the event of the compressor wheel bursting, an axial force acts on the turbine wheel and the shaft connected to the turbine wheel, the force acting in the direction of the turbine, wherein a means for axially locking the shaft and the turbine wheel connected to the shaft is arranged on the shaft between the compressor wheel and the thrust bearing, the means, in the event of the compressor wheel bursting, preventing an axial movement of the shaft and of the turbine wheel connected to the shaft in the direction of the turbine (emphasis added). Support for the amendments can be found, for example, in Figures 2A, 2B and 3.

In the claimed turbocharger, the means for axially locking the shaft and the turbine wheel connected to the shaft is arranged on the shaft between the compressor wheel and the thrust bearing. The claimed arrangement allows the means to interact with the thrust bearing to thereby prevent exit of the shaft in the even of the compressor wheel bursting.

The Office references the portions of the turbocharger assembly shown in Figures 6 and 7 of Romeo. As shown in these figures, a groove 58 is formed on

turbine end wall 58, a ring groove 44 is formed on turbine wheel 12, and a piston ring 42 is provided in ring groove 44. Romeo does not, however, disclose or suggest every feature recited in claim 13 including, *inter alia*, "a means for axially locking the shaft and the turbine wheel connected to the shaft is arranged on the shaft between the compressor wheel and the thrust bearing," much less that such means "in the event of the compressor wheel bursting, preventing an axial movement of the shaft and of the turbine wheel connected to the shaft in the direction of the turbine." It is noted, for example, that Romeo's piston ring 42 and ring groove 44 are not arranged on a shaft between a compressor wheel and thrust bearing. Accordingly, claim 13 is patentable over Romeo.

Claims 14-17 and 21, which depend from claim 13, are also patentable over Romeo for at least the same reasons as those for which claim 13 is patentable.

Therefore, withdrawal of this rejection is respectfully requested.

B. Claims 13-15 and 19 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,499,969 to Tombers et al. ("Tombers"). This rejection is respectfully traversed.

The Office references the turbocharger shown in Figures 1 and 2 of Tombers. As shown in Figure 2, the turbocharger includes a compressor wheel 20 and turbine wheel 18 connected to a shaft 52. A thrust reaction surface 58 and radial surface 60 are shown. The Office asserts that the thrust reaction surface 58 and radial surface 60 axially lock the shaft.

Applicants submit that Tombers also does not disclose or suggest a turbocharger comprising every feature recited in claim 13 including, *inter alia*, "a

means for axially locking the shaft and the turbine wheel connected to the shaft is arranged on the shaft between the compressor wheel and the thrust bearing," much less that "the means, in the event of the compressor wheel bursting, preventing an axial movement of the shaft and of the turbine wheel connected to the shaft in the direction of the turbine" (emphasis added). For example, Tombers' thrust reaction surface 58 and radial surface 60 are not arranged on shaft 52 between compressor wheel 20 and a thrust bearing. Accordingly, claim 13 is patentable over Romeo.

Claims 14 and 15, which depend from Claim 13, are also patentable over Tombers for at least the same reasons as those for which Claim 13 is patentable.

Claim 19, as amended, recites a means for axially locking a shaft and the components of a turbocharger which are firmly connected to this shaft, a turbine wheel and a compressor wheel being arranged in a rotationally fixed manner on the shaft, the shaft being rotatably and axially mounted by means of a radial bearing and a thrust bearing arranged between the turbine wheel and the compressor wheel, and the turbine wheel, the shaft and the compressor wheel being arranged and connected to one another in such a way that, in the event of the compressor wheel bursting, an axially acting force acts on the shaft and on the components firmly connected to the shaft, wherein the means is connected to the shaft between the compressor wheel and the thrust bearing in such a way that the means interacts with the thrust bearing by contact between the means and an auxiliary bearing and contact between the auxiliary bearing and the thrust bearing in the event of the compressor wheel bursting, so that the axially acting force is compensated for by this interaction and an axial movement of the shaft and of the components firmly

connected to the shaft is prevented (emphasis added). For reasons stated above, Tombers also does not suggest the subject matter recited in claim 19.

Therefore, withdrawal of this rejection is respectfully requested.

**Rejection Under 35 U.S.C. § 103**

Claim 21 was rejected under 35 U.S.C. § 103(a) over Romeo. This rejection is respectfully traversed.

Claim 21, which depends from claim 13, is also patentable over Romeo for at least the same reason as those for which claim 13 is patentable. Therefore, withdrawal of this rejection is respectfully requested.

**Conclusion**

For the foregoing reasons, allowance of the application is respectfully requested. If there are any questions concerning this reply, the Examiner is respectfully requested to call Applicants' undersigned representative at the telephone number given below.

Respectfully submitted,

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